Patent
Attorney's Docket No. 1030681-000291

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	**MAIL STOP: APPEAL BRIEF**
A-jung Kim.	Group Art Unit: 2135
Application No.: 09/816,080	Examiner: Beemnet W. Dada
Filed: March 26, 2001	Confirmation No.: 7143
For: KEY AGREEMENT METHOD IN SECURE COMMUNICATION SYSTEM USING MULTIPLE ACCESS METHOD	

REPLY BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the Examiner's Answer dated September 22, 2006, Appellant offers the following observations.

At page 5, the Office identifies the applied art (U.S. Patent No. 6,678,379 to Mayers) transmits a photon signal from a first user to a second user and determines "which bits correspond to a predetermined four sets of bases, and these bits are kept and other bits are discarded (i.e., Mayers teaches adopting bits having a measured value which corresponds to the four sets of bases, and any bits having a measured value which is outside the bases is discarded **(which implies, adopting bits having a measured value beyond a threshold value which is predetermined)**, column 8, lines 62-67 and column [sic] 21-28). (Emphasis changed). It is respectfully submitted that determining which of four sets of bases a photon might have is a binary function but does not involve threshold values. Stated differently, they either have one of the four sets of bases, or they do not. There is no reason to believe that anything akin to a threshold value would be employed.

This is not a mere matter of semantics. It goes to the fundamental manner in which the present invention operates in contrast to that of the Mayers patent.

The Examiner also suggests that he is not persuaded by Appellant's argument because of the open-ended nature of the transitional phrase, though he recognizes that both the first user and the second user are involved in the testing procedure in contrast to the presently disclosed invention does not require both first and second users to be involved in the testing procedure. However, this was not the Appellant's argument. Appellant's specifically cited to claim language, *i.e.,* as presently claimed and in contrast to the Mayers system, the second system records some second values, **which are above a predetermined value**, and tells the first system the **bit position** of the selected bits. The first system selects values corresponding as bits and discards the rest of them. This is in contrast to the Mayers system which, if a sufficient number of bits meet a parity test, it is concluded there is no eavesdropping activity. The bits that have been tested are discarded and the shared key is produced from the remaining random series of bits as identified in Mayers, column 9, lines 29-36.

With respect to claim 2, it is noted that claim 2 says that if the error rate is below a tolerable level, the key string is accepted and then the process involves "obtaining a refined key string with amplification such as an error correction process." Nothing akin to this can be found in the Mayers patent in column 9, lines 1-6 and 29-41, which are cited by the Examiner at page 6 of the Examiner's Answer.

Finally, the Examiner asserts that the recitations of claims 5 and 6 are met by the determination of whether the bases constitutes one of four sets of bases. Appellant respectfully submits this is not the same as crossing a threshold value, as

illustrated above. More particularly, with respect to claim 5 and 6, none of the transmission rate, transmission error rate or degree of security are used in determining which bits to adopt, on a bit-by-bit basis, having a measured value beyond the threshold value which is predetermined.

It is respectfully submitted that the Examiner's Answer does not satisfactorily rebut Appellant's positions and, accordingly, Appellant respectfully requests that the Examiner's decision be overturned.

Respectfully submitted,

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